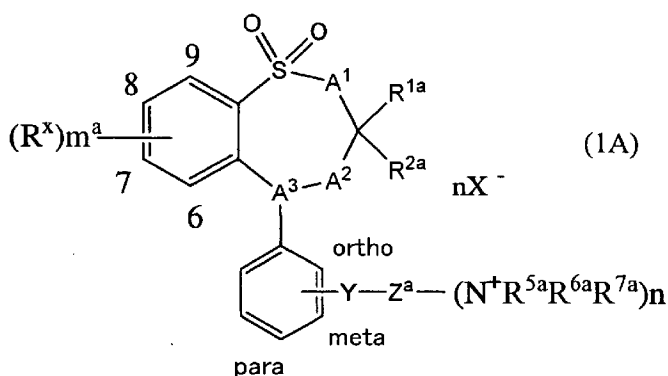


**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (currently amended) A compound represented by the following formula (1A):



wherein,

$R^{1a}$  and  $R^{2a}$  may be the same as or different from each other and each represents alkyl group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms;

$m^a$  is an integer of 0 to 4;

$R^x$  represents halogen atom, nitro group, amino group, cyano group, hydroxy group, carboxy group,  $-\text{CONH}_2$ ,  $-\text{SO}_3\text{H}$ ,  $-\text{NR}^3\text{R}^4$ ,

$R^3$  and  $R^4$  may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms, alkyl group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms;



wherein the alkyl group, the alkenyl group and the alkynyl group may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, ~~piperidyl~~ piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy,  $-\text{CONH}_2$  and  $-\text{SO}_3\text{H}$ ; one or more methylenes which constitute the alkyl group, the alkenyl group and the alkynyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene,  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{CO}_2-$ ,  $-\text{NHCO}-$ ,  $-\text{NR}^{8a}-$ , and  $-\text{N}^+\text{W}^{a-}\text{R}^{9a}\text{R}^{10a}-$ ,

$\text{R}^{8a}$  represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms; the alkyl group and the alkenyl group in  $\text{R}^{8a}$  may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl,

$\text{R}^{9a}$  and  $\text{R}^{10a}$  may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, and may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl, and

$\text{W}^{a-}$  represents a counteranion;

the combination of  $(\text{A}^1, \text{A}^2, \text{A}^3)$  represents  $(\text{CH}_2, \text{CH}(\text{OH}), \text{CH})$ ; Y represents any of  $-\text{NHCS}-$ ,  $-\text{NHCSNH}-$  or  $-\text{NHCSO}-$ , wherein  $-\text{NH}$  of  $-\text{NHCS}-$  represents a bond which binds to the adjacent benzene ring and  $\text{CS}-$  represents a bond which binds to the adjacent  $\text{Z}^a$ , and  $-\text{NH}$  of  $-\text{NHCSO}-$  represents a bond which binds to the adjacent



benzene ring and CSO- represents a bond which binds to the adjacent  $Z^a$ ;

$Z^a-(N^+R^{5a}R^{6a}R^{7a})_n$  represents an alkyl group or alkenyl group having 2 to 10 carbon atoms which is substituted with  $-N^+R^{5a}R^{6a}R^{7a}$ , the number of the substituents being  $n$ ; wherein one or more methylenes which constitute  $Z^a$  may be replaced with any of phenylene which may have a substituent or  $-O-$ ; wherein the substituent(s) in the phenylene which may have the substituent are 1 to 4 substituents selected from the group consisting of alkyl groups having 1 to 5 carbon atoms, alkoxy groups having 1 to 5 carbon atoms, nitro group, halogen atoms, trifluoromethyl group and  $-\text{CH}_2N^+R^{5a}R^{6a}R^{7a}$ ; wherein the substituents may be the same as or different from each other; and wherein  $n$  is an integer of 1 or 2; and

each of  $N^+R^{5a}R^{6a}R^{7a}$  is independently any of the following I), II) or III):

I)  $R^{5a}$ ,  $R^{6a}$  and  $R^{7a}$  may be the same as or different from one another, and each represents alkyl group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms; wherein the alkyl group, the alkenyl group and the alkynyl group may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, ~~piperidi~~ piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy,  $-\text{CONH}_2$  and  $-\text{SO}_3\text{H}$ ; and wherein one or more



methylenes which constitute the alkyl group, the alkenyl group and the alkynyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene, -O-, -S-, -CO<sub>2</sub>-, -NHCO-, -NR<sup>8</sup>-, and -N<sup>+</sup>W<sup>-</sup>R<sup>9</sup>R<sup>10</sup>-,

R<sup>8</sup> represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, the alkyl group and the alkenyl group in R<sup>8</sup> may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl,

R<sup>9</sup> and R<sup>10</sup> may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, and may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl, and

W<sup>-</sup> represents a counteranion;

II) N<sup>+</sup>R<sup>5a</sup>R<sup>6a</sup>R<sup>7a</sup> represents a monocyclo or bicyclo ring formed of 4 to 9 carbon atoms in addition to the ammonium nitrogen atom, with a proviso that a position of binding to Z<sup>a</sup> is the ammonium nitrogen atom; wherein, in the monocyclo and bicyclo rings, one of the carbon atoms which constitutes the ring may be replaced with any of oxygen, nitrogen or sulfur atom; and the monocyclo and bicyclo rings may be substituted with one or more groups of hydroxy, oxo, thioxo, cyano, phenyl, naphthyl, thienyl, pyridyl, cycloalkyl having 3 to 7 carbon atoms, carboxy, -CONH<sub>2</sub>, -SO<sub>3</sub>H and -R<sup>11</sup>,

R<sup>11</sup> represents alkyl group having 1 to 8 carbon atoms



or alkenyl group having 2 to 8 carbon atoms, the alkyl group and the alkenyl group in  $R^{11}$  may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, ~~piperidinyl~~ piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy,  $-\text{CONH}_2$  and  $-\text{SO}_3\text{H}$ ; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene,  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{CO}_2-$ ,  $-\text{NHCO}-$ ,  $-\text{NR}^8-$ , and  $-\text{N}^+\text{W}^-\text{R}^9\text{R}^{10}$ ;  $\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$  and  $\text{W}^-$  are the same as the above; and the group which is not involved in the formation of the monocyclo ring and the bicyclo ring in  $\text{R}^{5a}$ ,  $\text{R}^{6a}$  and  $\text{R}^{7a}$  is the same as the above I); and

III)  $\text{N}^+\text{R}^{5a}\text{R}^{6a}\text{R}^{7a}$  represents a pyridinium ring, a quinolinium ring or an isoquinolinium ring with a proviso that a position of binding to  $\text{Z}^a$  is the ammonium nitrogen atom; wherein the pyridinium ring, the quinolinium ring and the isoquinolinium ring may be substituted with one or more groups of cyano, nitro, phenyl, naphthyl, thienyl, pyridyl, cycloalkyl having 3 to 7 carbon atoms, alkoxy having 1 to 5 carbon atoms, carboxy,  $-\text{CONH}_2$ ,  $-\text{SO}_3\text{H}$ , halogen, hydroxy, tetrahydropyranyl and  $-\text{R}^{12a}$ ,

$\text{R}^{12a}$  represents alkyl group having 1 to 9 carbon atoms or alkenyl group having 2 to 9 carbon atoms, the alkyl group and the alkenyl group in  $\text{R}^{12a}$  may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy,

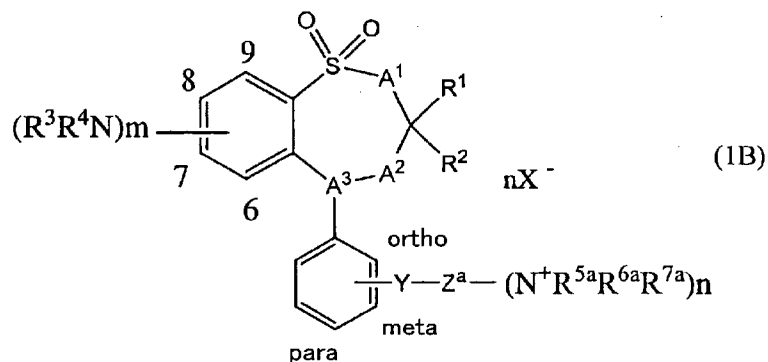


oxo, thioxo, carboxy,  $-\text{CONH}_2$  and  $-\text{SO}_3\text{H}$ ; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene,  $-\text{S}-$ ,  $-\text{O}-$ ,  $-\text{CO}_2-$ ,  $-\text{NHCO}-$ ,  $-\text{NR}^8-$ , and  $-\text{N}^+\text{W}^-\text{R}^9\text{R}^{10}-$ ;

$\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$  and  $\text{W}^-$  are the same as the above; and

$\text{X}^-$  represents a counteranion.

2. (currently amended) A compound represented by the following formula (1B):



wherein,

$\text{R}^1$  and  $\text{R}^2$  may be the same as or different from each other and each represents alkyl group having 1 to 10 carbon atoms;

$m$  is an integer of 1 or 2;

$\text{R}^3$  and  $\text{R}^4$  may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms; the combination of  $(\text{A}^1, \text{A}^2, \text{A}^3)$  represents  $(\text{CH}_2, \text{CH}(\text{OH}), \text{CH})$ ;

$\text{Y}$  represents any of  $-\text{NHCS}-$ ,  $-\text{NHCSNH}-$  or  $-\text{NHCSO}-$ ,



wherein -NH of -NHCS- represents a bond which binds to the adjacent benzene ring and CS- represents a bond which binds to the adjacent  $Z^a$ , and -NH of -NHCSO- represents a bond which binds to the adjacent benzene ring and CSO- represents a bond which binds to the adjacent  $Z^a$ ;

$Z^a-(N^+R^{5a}R^{6a}R^{7a})_n$  represents an alkyl group or alkenyl group having 2 to 10 carbon atoms which is substituted with  $-N^+R^{5a}R^{6a}R^{7a}$ , the number of the substituents being  $n$ ; wherein one or more methylenes which constitute  $Z^a$  may be replaced with any of phenylene which may have a substituent or -O-; wherein the substituent(s) in the phenylene which may have the substituent are 1 to 4 substituents selected from the group consisting of alkyl groups having 1 to 5 carbon atoms, alkoxy groups having 1 to 5 carbon atoms, nitro group, halogen atoms, trifluoromethyl group and  $-\text{CH}_2N^+R^{5a}R^{6a}R^{7a}$ ; wherein the substituents may be the same as or different from each other; and wherein  $n$  is an integer of 1 or 2; and

each of  $N^+R^{5a}R^{6a}R^{7a}$  is independently any of the following I), II) or III):

I)  $R^{5a}$ ,  $R^{6a}$  and  $R^{7a}$  may be the same as or different from one another, and each represents alkyl group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms; wherein the alkyl group, the alkenyl group and the alkynyl group may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl,



thienyl, furyl, ~~piperidyl~~ piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy,  $-\text{CONH}_2$  and  $-\text{SO}_3\text{H}$ ; and wherein one or more methylenes which constitute the alkyl group, the alkenyl group and the alkynyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene,  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{CO}_2-$ ,  $-\text{NHCO}-$ ,  $-\text{NR}^8-$ , and  $-\text{N}^+\text{W}^-\text{R}^9\text{R}^{10}-$ ,

$\text{R}^8$  represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, the alkyl group and the alkenyl group in  $\text{R}^8$  may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl,

$\text{R}^9$  and  $\text{R}^{10}$  may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, and may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl, and

$\text{W}^-$  represents a counteranion;

II)  $\text{N}^+\text{R}^{5a}\text{R}^{6a}\text{R}^{7a}$  represents a monocyclo or bicyclo ring formed of 4 to 9 carbon atoms in addition to the ammonium nitrogen atom, with a proviso that a position of binding to  $\text{Z}^a$  is the ammonium nitrogen atom; wherein, in the monocyclo and bicyclo rings, one of the carbon atoms which constitutes the ring may be replaced with any of oxygen, nitrogen or sulfur atom; and the monocyclo and bicyclo rings may be substituted with one or more groups of hydroxy, oxo, thioxo, cyano, phenyl, naphthyl, thienyl,



pyridyl, cycloalkyl having 3 to 7 carbon atoms, carboxy,  $-\text{CONH}_2$ ,  $-\text{SO}_3\text{H}$  and  $-\text{R}^{11}$ ,

$\text{R}^{11}$  represents alkyl group having 1 to 8 carbon atoms or alkenyl group having 2 to 8 carbon atoms, the alkyl group and the alkenyl group in  $\text{R}^{11}$  may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, ~~piperidyl~~ piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy,  $-\text{CONH}_2$  and  $-\text{SO}_3\text{H}$ ; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene,  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{CO}_2-$ ,  $-\text{NHCO}-$ ,  $-\text{NR}^8-$ , and  $-\text{N}^+\text{W}^-\text{R}^9\text{R}^{10}$ ;  $\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$  and  $\text{W}^-$  are the same as the above; and the group which is not involved in the formation of the monocyclo ring and the bicyclo ring in  $\text{R}^{5a}$ ,  $\text{R}^{6a}$  and  $\text{R}^{7a}$  is the same as the above I); and

III)  $\text{N}^+\text{R}^{5a}\text{R}^{6a}\text{R}^{7a}$  represents a pyridinium ring, a quinolinium ring or an isoquinolinium ring with a proviso that a position of binding to  $\text{Z}^a$  is the ammonium nitrogen atom; wherein the pyridinium ring, the quinolinium ring and the isoquinolinium ring may be substituted with one or more groups of cyano, nitro, phenyl, naphthyl, thienyl, pyridyl, cycloalkyl having 3 to 7 carbon atoms, alkoxy having 1 to 5 carbon atoms, carboxy,  $-\text{CONH}_2$ ,  $-\text{SO}_3\text{H}$ , halogen, hydroxy, tetrahydropyranyl and  $-\text{R}^{12a}$ ,

$\text{R}^{12a}$  represents alkyl group having 1 to 9 carbon atoms or alkenyl group having 2 to 9 carbon atoms, the alkyl group and



the alkenyl group in  $R^{12a}$  may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy,  $-\text{CONH}_2$  and  $-\text{SO}_3\text{H}$ ; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene,  $-\text{S}-$ ,  $-\text{O}-$ ,  $-\text{CO}_2-$ ,  $-\text{NHCO}-$ ,  $-\text{NR}^8-$ , and  $-\text{N}^+\text{W}^-\text{R}^9\text{R}^{10}-$ ;

$R^8$ ,  $R^9$ ,  $R^{10}$  and  $\text{W}^-$  are the same as the above; and

$\text{X}^-$  represents a counteranion.

3-9. (canceled)

10. (previously presented) A pharmaceutical composition containing the compound according to claim 1 as an active component.

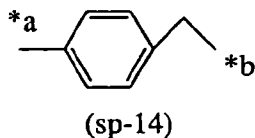
11-21. (canceled)

22. (previously presented) A pharmaceutical composition containing the compound according to claim 2 as an active component.

23-40. (canceled)



41. (previously presented) The compound according to claim 2 wherein Y represents -NHCSNH- at meta position, and Z<sup>a</sup> represents the following formula (sp-14):



wherein \*a binds to Y and \*b binds to N<sup>+</sup>R<sup>5a</sup>R<sup>6a</sup>R<sup>7a</sup> in the formula (1B).

42. (previously presented) The compound according to claim 41 wherein R<sup>1</sup> and R<sup>2</sup> may be the same as or different from each other and each represents straight alkyl groups having 2 to 6 carbon atoms, and wherein (R<sup>3</sup>R<sup>4</sup>N)<sub>m</sub> represents any of dimethylamino group substituted at position 7, diethylamino group substituted at position 7, ethylmethylamino group substituted at position 7, dimethylamino group substituted at position 9 and dimethylamino groups substituted at two positions 7 and 9.

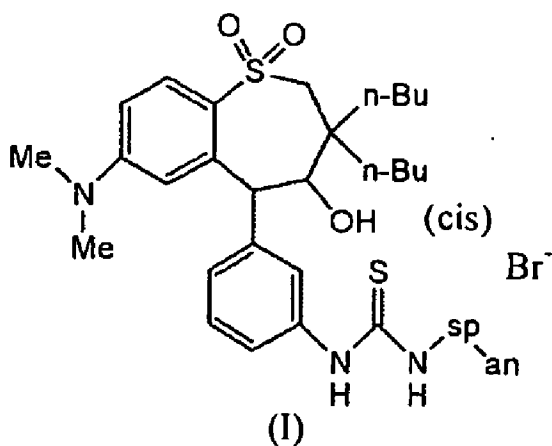
43. (previously presented) The compound according to claim 42 wherein (R<sup>3</sup>R<sup>4</sup>N)<sub>m</sub> represents any of dimethylamino group substituted at position 7, diethylamino group substituted at position 7 or ethylmethylamino group substituted at position 7, and wherein N<sup>+</sup>R<sup>5a</sup>R<sup>6a</sup>R<sup>7a</sup> represents a group selected from the group consisting of:

4-t-butylpyridinium;

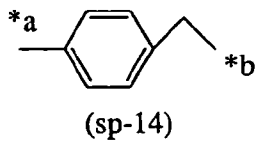


3-(3-hydroxypropyl)-pyridinium;  
3-[2-(methoxycarbonyl)ethyl]-pyridinium;  
2-(n-propyl)-pyridinium;  
4-phenylquinuclidinium; and  
1,4-diazabicyclo[2.2.2]octanium.

44. (previously presented) A compound represented by  
the following formula (I):

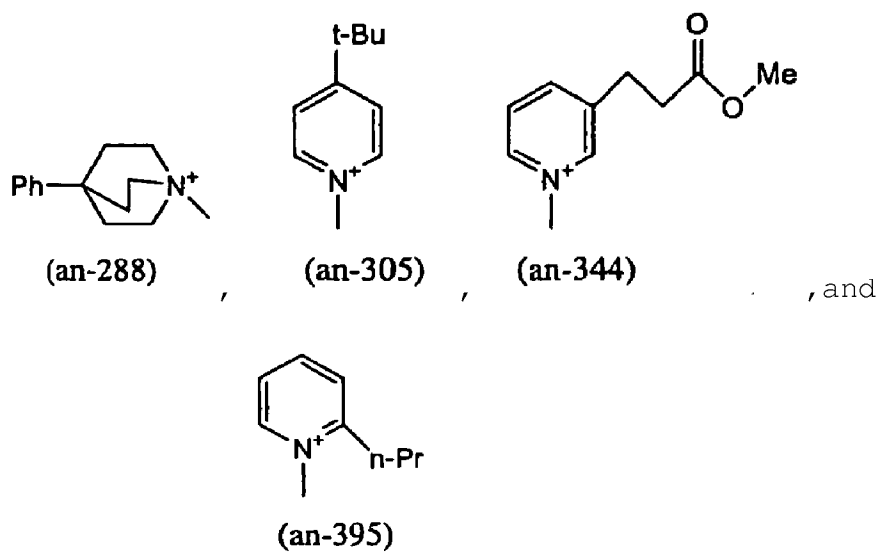


wherein (sp) is the following formula (sp-14)



wherein \*a binds to -NHCSNH- and \*b binds to (an); and  
(an) is selected from the group consisting of:





45. (previously presented) The compound according to claim 44 wherein (sp) is the formula (sp-14), and (an) is the formula (an-288).

46-48. (canceled)

49. (previously presented) A pharmaceutical composition containing the compound according to claim 41 as an active component.

50-51. (canceled)

52. (previously presented) A pharmaceutical composition containing the compound according to claim 42 as an active component.



53-54. (canceled)

55. (previously presented) A pharmaceutical composition containing the compound according to claim 43 as an active component.

56-57. (canceled)

58. (previously presented) A pharmaceutical composition containing the compound according to claim 44 as an active component.

59-60. (canceled)

61. (previously presented) A pharmaceutical composition containing the compound according to claim 45 as an active component.

62-72. (canceled)

73. (new) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 1 as an active component.



74. (new) A method for treating or preventing any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 1 as an active component.

75. (new) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 2 as an active component.

76. (new) A method for treating or preventing any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 2 as an active component.

77. (new) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 41 as an active component.

78. (new) A method for treating or preventing any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of



a pharmaceutical composition containing the compound according to claim 41 as an active component.

79. (new) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 42 as an active component.

80. (new) A method for treating or preventing any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 42 as an active component.

81. (new) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 43 as an active component.

82. (new) A method for treating or preventing any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 43 as an active component.



83. (new) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 44 as an active component.

84. (new) A method for treating or preventing any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 44 as an active component.

85. (new) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 45 as an active component.

86. (new) A method for treating or preventing any of hiperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 45 as an active component.